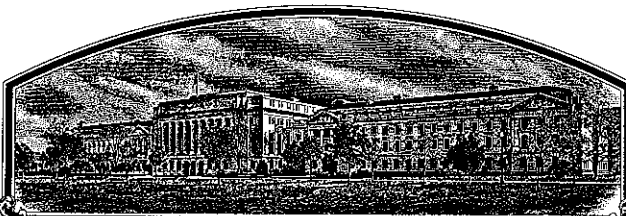


No.

9200229



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

University of Illinois

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EX- OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEANS

'Spry'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this 30th day of November in the year of our Lord one thousand nine hundred and ninety-four.

Attest:

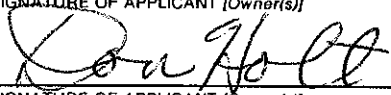
Kenneth H. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Mike Egan
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) University of Illinois		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. L83-3804	3. VARIETY NAME Spry
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) Illinois Agricultural Experiment Station 1301 W. Gregory 211 Mumford University of Illinois Urbana, IL 61801		5. PHONE (include area code) 217-333-0240	
6. GENUS AND SPECIES NAME Glycine max (L.) Merr.		7. FAMILY NAME (Botanical) Leguminosae	
8. CROP KIND NAME (Common Name) Soybeans		9. DATE OF DETERMINATION August 1, 1991	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) University of Illinois			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION		12. DATE OF INCORPORATION	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS D. A. Holt, Director Agricultural Experiment Station University of Illinois 211 Mumford Hall, 1301 W. Gregory Drive, Urbana, IL 61801			
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)			
a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety. b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement. c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety. d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of Variety. e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership. f. <input checked="" type="checkbox"/> Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____ g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."			
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.) <input checked="" type="checkbox"/> YES (If "YES," answer items 16 and 17 below) <input type="checkbox"/> NO (If "NO," skip to item 18 below)			
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED	
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <input type="checkbox"/> YES (If "YES," through <input type="checkbox"/> Plant Variety Protection Act <input type="checkbox"/> Patent Act. Give date: _____) <input checked="" type="checkbox"/> NO			
19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> YES (If "YES," give names of countries and dates) <input checked="" type="checkbox"/> NO			
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT (Owner(s)) 		CAPACITY OR TITLE Director	
SIGNATURE OF APPLICANT (Owner(s))		DATE Feb 3, 1992	
SIGNATURE OF APPLICANT (Owner(s))		DATE	

SOYBEAN

9200229

'Spry'

14a. Exhibit A:

Pedigree:

(([(Hawkeye x Lee) x (Hawkeye x Lee)] x Harosoy-dtl) x Elf) x
 {[(Hill-Rps3 x Dyer) x (Clark-dtl El t x Harosoy-dtl)] x Essex}

SPRY is an F6 line selected at the Illinois Agricultural Experiment Station from the cross of L78-8694 x L78L-449. Spry was developed in a recurrent selection program begun in the 1950's to develop tall determinate soybeans (with the dtl gene) adapted to the Midwest. In each cycle, early generation visual selection for plant type was followed by field performance testing of F4 or F5 lines for 2 to 3 years prior to recombining. The development that lead to the female parent began with the crossing of a popular northern variety (Hawkeye) with indeterminate stems typical of northern varieties with a popular southern variety (Lee) with determinate stems typical of southern varieties. Two determinate selections were intercrossed and a selected line from this (L66-1322) was crossed to the most widely grown maturity Group II variety (Harosoy) to which the dtl gene had been transferred by backcrossing (L62-535) so that all progeny of the cross would be determinate and selection for heterozygotes (Dtl dtl), which often have an attractive tall determinate phenotype, could be avoided. A selection from this (L71-3628) was crossed to Elf, a high-yielding short-determinate Group III line that was about to be released as the first modern northern determinate cultivar. From this, L78-8694, the female parent of SPRY, was selected.

The development of the male parent began with the development of determinate isolines of the 2 most successful and widely grown varieties in Illinois (Clark Group IV and Harosoy Group II). Both isolines were quite short (although Clark-dtl was approximately the height of Elf). To increase its height the Clark isolate was modified by adding the gene El for delayed flowering and maturity (present in most, if not all southern U.S. varieties) to increase plant height and the gene e2, which restored the maturity of Clark but left some of the late-flowering effect of El, thereby giving increased height. This Clark-dtl El e2 isolate (L66-531) was crossed with a Harosoy-dtl isolate (L62-535) and L69L-3 was selected. It was crossed with a high-performing early Group V determinate selection from Dr. Edgar Hartwig in Mississippi (D66-12392, which was in the regional Uniform Test V in 1968 and 1969). A selection from that cross (L73-4124) was then crossed with Essex, a high yielding Group V determinate cultivar from Virginia producing L78L-449.

L78-8694 was crossed with L78L-449 in the greenhouse in the 1979-80 winter and the F1 grown at Urbana in 1980. The F2 to F4 were grown and harvested in bulk at the USDA winter nursery in Puerto Rico (F2 and F4) or at Urbana (F3). One or 2 pods were taken from each plant, with visual selection for tall plant type in the F3. The F5 was grown at Urbana in 1982, and 65 plants were selected for plant type and grown at Urbana in 1983. Rows with tall growth were selected (including SPRY that was designated L83-3804) and tested in 1984 to 1986 at Urbana and locations in southern Illinois. SPRY was entered in the regional Preliminary Test IV in 1987 and in Uniform Test IV in 1988 to 1990.

Spry appears stable and uniform through five generations of selfing and during seed increase for other characteristics.

Spry is most similar to Spencer. Spry differs from Spencer in having purple flowers, dull yellow seeds with black hila, and determinate stem type (dt1) while Spencer has white flowers, yellow seed with brown hila, and indeterminate stem type (Dt1).

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT C
(Soybean)




PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) University of Illinois	TEMPORARY DESIGNATION L83-3804	VARIETY NAME Spry
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) Illinois Agricultural Experiment Station 1301 W. Gregory 211 Mumford, University of Illinois, Urbana, IL 61801		FOR OFFICIAL USE ONLY PVPO NUMBER 9200229

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:

<input type="text" value="2"/>			
	1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)	2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)	
	3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)	4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)	

★ 2. SEED COAT COLOR: (Mature Seed)

<input type="text" value="1"/>	1 = Yellow	2 = Green	3 = Brown	4 = Black	5 = Other (Specify) _____
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3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

<input type="text" value="1"/>	1 = Dull ('Corsoy 79'; 'Braxton')	2 = Shiny ('Nebsoy'; 'Gasoy 17')
--------------------------------	-----------------------------------	----------------------------------

★ 4. SEED SIZE: (Mature Seed)

<input type="text" value="1"/> <input type="text" value="6"/>	Grams per 100 seeds
---	---------------------

★ 5. HILUM COLOR: (Mature Seed)

<input type="text" value="6"/>	1 = Buff	2 = Yellow	3 = Brown	4 = Gray	5 = Imperfect Black	6 = Black	7 = Other (Specify) _____
--------------------------------	----------	------------	-----------	----------	---------------------	-----------	---------------------------

★ 6. COTYLEDON COLOR: (Mature Seed)

<input type="text" value="1"/>	1 = Yellow	2 = Green
--------------------------------	------------	-----------

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

<input type="text" value="1"/>	1 = Low	2 = High
--------------------------------	---------	----------

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

<input type="text"/>	1 = Type A (SP ^{1a})	2 = Type B (SP ^{1b})
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★ 9. HYPOCOTYL COLOR:

<input type="text" value="4"/>	1 = Green only ('Evans'; 'Davis')	2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
	3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')	
	4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')	

★ 10. LEAFLET SHAPE:

<input type="text" value="3"/>	1 = Lanceolate	2 = Oval	3 = Ovate	4 = Other (Specify) _____
--------------------------------	----------------	----------	-----------	---------------------------

11. LEAFLET SIZE:

☐ 21 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☐ 21 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

☐ 2

1 = White

2 = Purple

3 = White with purple throat

★ 14. POD COLOR:

☐ 2

1 = Tan

2 = Brown

3 = Black

★ 15. PLANT PUBESCENCE COLOR:

☐ 2

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

☐ 21 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

★ 17. PLANT HABIT:

☐ 1

1 = Determinate ('Gnome'; 'Braxton')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

2 = Semi-Determinate ('Will')

★ 18. MATURITY GROUP:

☐ 7

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★

☐ 0Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

☐ 0Bacterial Blight (*Pseudomonas glycinea*)

★

☐ 0Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★

☐ 1Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)

★

☐ 0

Race 1

☐ 0

Race 2

☐ 0

Race 3

☐ 0

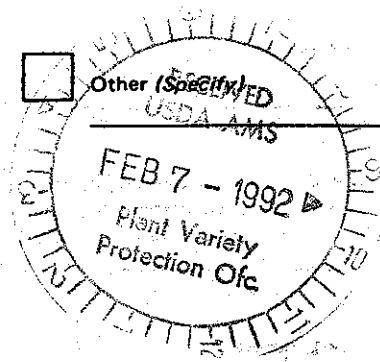
Race 4

☐ 0

Race 5

☐ 0Target Spot (*Corynespora cassicola*)☐ 0Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐ 0Powdery Mildew (*Microsphaera diffusa*)

★

☐ 0Brown Stem Rot (*Cephalosporium gregatum*)☐ 0Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ★ ☐ 0 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ 0 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☐ 1 Race 1 ☐ 0 Race 2 ☐ 0 Race 3 ☐ 1 Race 4 ☐ 0 Race 5 ☐ 0 Race 6 ☐ 1 Race 7
- ☐ 0 Race 8 ☐ 0 Race 9 ☐ Other (Specify) _____

VIRAL DISEASES:

- ☐ 0 Bud Blight (Tobacco Ringspot Virus)
- ☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 0 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 0 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 0 Race 1 ☐ 0 Race 2 ☐ 1 Race 3 ☐ 1 Race 4 ☐ 0 Other (Specify) _____
- ☐ 0 Lance Nematode (*Hoplolaimus Colombus*)
- ★ ☐ 0 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ 0 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ 0 OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 0 Iron Chlorosis on Calcareous Soil
- ☐ 0 Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 0 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	Spencer	Seed Coat Luster	Spencer
Leaf Shape	Spencer	Seed Size	Pennyrile
Leaf Color	Spencer	Seed Shape	Spencer
Leaf Size	Spencer	Seedling Pigmentation	Flyer

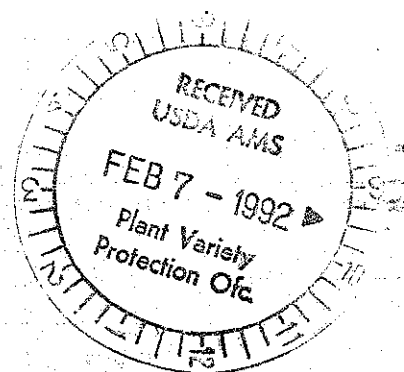
23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

9200229

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
Spry Submitted	149	2.3	89	9.	15.	40.6	21.0	16.4	2.5
Spencer Name of Similar Variety	143	1.4	89	8.	11.	40.8	21.5	17.5	2.5

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.



14d. Exhibit D. Additional Description of Variety

SPRY is classified as Group IV maturity (relative maturity 4.8) averaging 6 days later than Spencer. It has unusually rapid early vegetative growth and does best in environments where this is an advantage, such as drouthy soils, and often yields relatively poorly under conditions of heavy growth where lodging is a problem. SPRY is best adapted to approximately 38 to 39°N lat. When compared with Spencer, SPRY averaged 2.5% higher yield and better seed quality overall and at locations with poor vegetative growth it averaged about 25% higher in yield.

14e. Exhibit E. Statement of the Basis of Applicants Ownership

Spry was developed at the University of Illinois, Illinois Agricultural Experiment Station by R. L. Bernard and C. D. Nickell, employees in the Department of Agronomy.